

### **ABSTRACT OF THE DISCLOSURE**

A liquid flow metering system is disclosed which includes a pump disposed between a liquid supply and a reservoir. The reservoir includes an inlet connected to the pump, an air/liquid outlet and a liquid outlet. The air/liquid outlet is  
5 connected to an air separation chamber. The liquid outlet is connected to a flow meter and a liquid outlet valve. The air separation chamber is connected to an air outlet. The air outlet is connected to an air release valve. The air separation chamber accommodates an optical sensor for sensing the presence of air in front thereof and within the air separation chamber. The optical sensor, air release valve and liquid  
10 outlet valve are all linked to a controller. When the optical sensor senses air in front of the optical sensor, the sensor sends a signal to the controller to open the air release valve and close the liquid outlet valve. Conversely, when the optical sensor senses liquid in front of the optical sensor, the optical sensor sends a signal to the controller to close the air release valve and open the liquid outlet valve.